

Remarks on the Genera of the Subfamily Chalcidinae, with
Synonymic Notes and Descriptions of new Species of *Leucospidinæ* and *Chalcidinae*. By W. F. KIRBY, Sec. Entomol.
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(PLATES III. & IV.)

INTRODUCTORY REMARKS.

THE subfamily Chalcidinae is in a very unsatisfactory state ; and the tendency of recent authors has been to class the majority of the species under the three genera *Smicra*, *Halticella*, and *Chalcis*, ignoring the divisions which former writers have proposed, partly on the ground that several of their genera run into each other, and partly because it is usually considered that characters taken from one sex only are not sufficient to establish a genus. But in the order Hymenoptera, where the females frequently far outnumber the males, forming in fact the bulk of the species, it appears to me that the latter objection will hardly hold good. Although Walker described a great number of Chalcidinae from the Amazons and other localities, yet he founded his species in most cases on single specimens, in which case, of course, there is only one sex (generally the female) known. Under these circumstances, I thought it might be useful to discuss all the genera of Chalcidinae more or less in detail, establishing new ones for any unnamed sections which appeared to be sufficiently well defined, as preparatory to a thorough revision of the subfamily by myself, or some other entomologist, when a larger amount of material has accumulated. In the case of known genera, I usually confine myself to stating essential characters, and to indicating their types. The number of joints of the antennae here given will sometimes be found to differ from that stated by previous authors. This is frequently a very difficult character to verify ; but I have subjected every specimen figured to a careful microscopic examination, with the kind assistance of Mr. E. Wilson, and I think the results may be relied on as correct.

List of Genera included in the present paper with indications of Types.

A. Petiole more or less distinct.

1. SMICRA, Spin. (*Chalcis sispes*, L.).
2. SPILOCHALCIS, Thoms. (*C. xanthostigma*, Dalm.).
3. EPITRANUS, Walk. (*E. fulvescens*, Walk.).
4. CHALCITELLA, Westw. (*C. evanioides*, Westw.).
5. ANACRYPTUS, Kirb. (*Epitranus impulsator*, Walk.).
6. ARRETOCERA, Kirb. (*Ep. albipennis*, Walk.).
7. THAUMAPUS, Kirb. (*Smicra decora*, Walk.).
8. DIRRHINUS, Dalm. (*D. excavatus*, Dalm.).
9. ENIACA, Kirb. (*Chalcis cornigera*, Jur.).
10. AXIMA, Walk. (*O. spinifrons*, Walk.).

B. Petiole extremely short.

11. AGAMERION, Hal. (*Miscogaster gelo*, Walk.).
12. NOTASPIS, Walk. (*N. formiciformis*, Walk.).
13. EPINÆUS, Kirb. (*Smicra dux*, Walk.).
14. CONURA, Spin. (*C. flavicans*, Spin.).
15. STYPIURA, Kirb. (*Chalcis conigastra*, Perty).
16. PHASGONOPHORA, Westw. (*P. sulcata*, Westw.).
17. TRIGONURA, Sich. (*Phasg. crassicauda*, Sich.).
18. ASPIRRHINA, Kirb. (*Halticella dubitator*, Walk.).
19. PROCTOCERAS, Kirb. (*Smicra leucotelus*, Walk.).
20. THAMNOTELIA, Kirb. (*Chalcis separata*, Walk.).
21. EPITELIA, Kirb. (*Chalcis stylata*, Walk.).
22. MEGALOCOLUS, Kirb. (*Halticella ducator*, Walk.).
23. PSEUDOCHALCIS, Kirb. (*H. declarator*, Walk.).
24. TRICHOXENIA, Kirb. (*H. cineraria*, Walk.).
25. STOMATOCERAS, Kirb. (*H. liberator*, Walk.).
26. ANTROCEPHALUS, Kirb. (*H. fascicornis*, Walk.).
27. EUCHALCIS, Duf. (*E. Miegii*, Duf.).
28. NEOCHALCIS, Kirb. (*Halt. osmicida*, Saund.).
29. HOCKERIA, Walk. (*Chalcis bispinosa*, Fabr.).
30. HALTICELLA, Spin. (*C. pusilla*, Fabr.).
31. HYBOTHORAX, Ratz. (*H. Graafii*, Ratz.).
32. HIPPOTA, Walk. (*Chalcis pectinicornis*, Latr.).
33. CHALCIS, Fabr. (*Vespa minuta*, Linn.).

The Genera of Chalcidinae.

1. SMICRA. (Plate III. figs. 1-3.)

Smicra (err. impr.), Spin. Ann. Mus. xvii. p. 147 (1811).

Types *Chalcis sispes*, Fabr. (= *myrifex*, Sulz.), and *clavipes*, Fabr. (= *sispes*, Linn.), from Europe.

Antennæ 12- or 13-jointed, inserted in the middle of the face; scutellum more or less distinctly bidentate; abdomen subglobose, about twice as long as broad, and about twice as long as the petiole, which is rather thick; middle tibiæ not spined; hind

tibiæ produced to a point; hind femora dilated, dentated beneath, with one large tooth at the base, followed by seven smaller ones (*sispes*, L.) or two large basal teeth, almost side by side, followed by a series of very minute ones (*myrifer*, Sulz.).

I prefer to leave the European species together for the present, though they are hardly congeneric.

2. SPILOCHALCIS. (Plate III. figs. 4-5.)

Spilochalcis, Thoms. Hym. Scand. iv. p. 15 (1876).

Type *Chalcis xanthostigma*, Dalm. Vetensk. Handl. 1820, p. 141, from Northern Europe.

Antennæ pubescent, rather short and stout, scape rather short; middle tibiæ spined and hind tibiæ truncated at the extremity; hind femora armed with many minute blunt teeth.

3. EPITRANUS. (Plate III. figs. 6-7.)

Epitranus, Walk. Ent. Mag. ii. p. 26 (1834).

Type *E. fulvescens*, Walk., from St. Vincent's.

Antennæ 14-jointed, scape one third of their length, and somewhat clavate at tip; flagellum gradually thickened nearly to the extremity, terminal joint conical, pointed; head convex in front as far as the antennal tubercles; ocelli arranged in a triangle; thorax and scutellum thickly covered with large punctures, the latter rounded behind; petiole half as long as the abdomen, stout, and apparently channelled below; the first segment occupying nearly the whole of the abdomen, which is pointed at the tip; hind femora thickened, armed with some small teeth; hind tibiæ armed before the tip with a long curved spine.

The species subsequently referred by Walker to *Epitranus* are not congeneric.

4. CHALCITELLA.

Chalcitella, Westw. P. Z. S. 1835, p. 70.

Type *Chalcitella evanoides*, Westw., from Mauritius.

"Antennæ ad os insertæ 12? - 13? articulatæ, articulo 2do brevi, 3tio et sex sequentibus paullo majoribus, valde continuis, reliquis tribus vel quatuor massam elongato-conicam efformantibus. Metathorax valde declivis. Pedunculus dimidium abdominis longitudine æquans, gracilis, cylindricus. Femora intermedia ad basin gracilia, ad apicem subclavata; coxæ posticæ crassæ, longæ; femora postica maxima, subtus 7-dentata.

"Obs. Genus *Chalcidibus* typicalibus (ex. gr. *sispes*) affine."

5. ANACRYPTUS. (Plate III. figs. 8-9).

Type *Epitranus impulsator*, Walk. Trans. Ent. Soc. Lond. (3) i. p. 348 (1862), from Makassar.

Antennæ inserted near the mouth, 13-jointed, rather short and of moderate thickness, slightly attenuated beyond the scape, and clothed with very fine down; scape about half as long as the flagellum; joints 2 and 3 small, joints 4-12 of about equal length, each as long as joints 2 and 3 together, joint 13 very small, conical; head excavated as far back as the ocelli, and hinder edge of the scutellum also strongly concave; scutellum unarmed; abdomen petiolated, petiole moderately stout, fully as long as the abdomen; hind coxæ very large, nearly as long as the petiole; hind femora comparatively narrow, and strongly punctured, serrated beneath, and with a large tooth near the base; hind tibiæ with a large obtuse tooth near the base on the outside.

This genus must be closely allied to *Chalcitella*, Westw., but may be distinguished by the peculiar structure of the hind tibiæ.

6. ARRETOCERA. (Plate III. figs. 10-11.)

Type *Epitranus albipennis*, Walk. Trans. Ent. Soc. Lond. 1874, p. 400, from Hiogo, Japan.

General structure of *Epitranus*; head narrower; antennæ 13-jointed, inserted near the mouth; scape about two fifths of the total length; flagellum short and rather thick, slightly pilose, second joint rather long, third very short, the next nine of about equal length, apical joint small, conical; hind femora armed with many very minute teeth.

The single specimen is carded in such a manner as to render a proper examination of the antennæ very difficult.

7. THAUMAPUS. (Plate III. figs. 12-14.)

To include *Smicra masus*, Walk. Ent. i. p. 134 (1841); *S. decora*, Walk. Notes Chalc. iii. p. 54 (1871); and one new species. *S. decora* may be regarded as the type.

Antennæ 12-jointed, inserted low on the face; scape one sixth of the total length, second joint bare, the rest very pilose and of nearly equal thickness throughout, the last three very short, the last subtruncate; scutellum bidentate; metathorax with two large teeth on each side; petiole half the length of the abdomen, which is subglobose; hind coxæ stout, much longer than the

petiole; hind femora armed with moderate-sized teeth; wings more or less clouded, with the nervures very strongly marked.

8. *DIRRHINUS*. (Plate III. figs. 15-17.)

Dirrhinus, Dalm. Vet. Akad. Handl. 1818, p. 75.

Dirrhinus, Dalm. Anal. Ent. p. 29 (1823).

Type *D. excavatus*, Dalm. *ll. cc.*, from Sierra Leone.

Antennæ 12-jointed, inserted in the middle of the face, gradually thickened nearly to the extremity; head very deeply excavated, with a long projection in front within the eyes; scutellum unarmed, but metathorax strongly bidentate behind.

The details figured are taken from a specimen without locality, which agrees with Klug's figure of *D. excavatus* from Egypt (Symb. Phys. pl. xxxvii. fig. 14). Whether it is identical with Dalman's insect from Sierra Leone cannot be ascertained in the absence of specimens from the latter locality.

9. *ENIACA*. (Plate III. fig. 18.)

Dirrhinus, Walk. (nec Dalm.), Ent. Mag. ii. p. 38 (1834).

Type *Chrysis* (?) *hesperidum*, Rossi, Faun. Etr., ii. p. 78 (1790), from Europe.

Differs from *Dirrhinus* by its 13-jointed antennæ, with a long slender scape and thicker flagellum.

10. *AXIMA*. (Plate III. fig. 19.)

Axima, Walk. Trans. Ent. Soc. Lond. (3) i. p. 373 (1862).

Type *A. spinifrons*, Walk. *l. c.*, from the Upper Amazons (St. Paulo).

Body long and slender; head very broad; eyes very prominent, making the head considerably broader than the thorax; a short sharp spine projecting in front within each eye, and a shorter and blunter one outside each antenna; head and thorax scabrous; antennæ 11-jointed, inserted close together in the middle of the face; scape moderately long, bare, followed by three small bare joints; the remaining joints well separated, and clothed with short bristles, the fourth considerably longer than the remainder: scutellum, metathorax, and hind femora unarmed; abdomen petiolated, very long, slender and tapering, petiole about one fourth of its length; legs long and slender; hind femora rounded and very slightly thickened.

An anomalous genus, of somewhat uncertain position. In

spite of its structural analogy to *Dirrhinus*, it would perhaps be better to remove it from the Chalcidinae to the Cleonyminae, and place it near *Epistenia*, &c.

11. AGAMERION. (Plate III. figs. 20, 21.)

Agamerion, Hal. Trans. Ent. Soc. Lond. iii. p. 298 (1843).

Type *Miscogaster gelo*, Walk. Mon. Chalc. ii. p. 27 (1839), from Sydney.

Head as broad as the thorax; eyes large; antennæ pubescent, 12-jointed, far apart at the base, inserted below the eyes, joints 3 and 12 minute; scutellum with a projecting point; abdomen sessile, ovate (conical in female); coxæ and hind femora much thickened, and slightly keeled below; hind tibiæ with short spines on the outside, and two long spurs on the inside at the tip (sec. Haliday; one apparently missing); colour metallic.

12. NOTASPIS. (Plate III. figs. 22, 23.)

Notaspis, Walk. Ent. Mag. ii. p. 37 (1837).

Type *N. formiciformis*, Walk. *l. c.* p. 38, from St. Vincent's.

Head large, broader than the thorax; eyes large and very prominent; antennæ 13-jointed, inserted near the mouth, subclavate, scape about one third of their length; scutellum very large and produced to a point; abdomen sessile, first joint very large; hind femora moderately swollen, with a large obtuse projection beneath.

13. EPINÆUS. (Plate III. figs. 24, 25.)

Type *Smicra dux*, Walk. Journ. Ent. i. p. 173 (1861), from Pará.

Head as broad as the thorax: antennæ 14-jointed, moderately thick, and slightly pubescent; scape rather long, inserted about the middle of the face, which is excavated to the front ocellus; joints 2-4 minute: abdomen with a short but distinct petiole, and gradually produced into a long pointed cone; scutellum bidentate; hind coxæ long, with a leaf-like projection above; hind femora armed beneath with rather large teeth, that at the base much larger than the others; nervures of the wings indistinct.

14. CONURA, Spin. (Plate III. figs. 26, 27.)

Conura, Spin. Mag. Zool. vii. Ins. pl. clxxx. (1837).

Type *C. flavicans*, Spin., from Brazil. (Recently bred by Mr. P. N. Braine, from cocoons of *Altarus Hesperus* (?), from Cayenne.)

Antennæ inserted near the epistoma, 12-jointed, the second joint smallest, front deeply excavated; hind femora minutely denticulated below; nervures of the wings well marked.

15. STYPIURA. (Plate III. figs. 28–30.)

Allied to *Conura*, but placed by Sichel in *Phasgonophora*.

Type *Chalcis conigastra*, Perty, Del. Anim. Art. p. 134, pl. xxvi. fig. 16 (1834), from the Amazons.

Antennæ 11-jointed, pubescent, moderately stout, second joint short, cup-shaped, third small, the rest of uniform thickness; scape rather short, inserted high up in the face, about opposite the middle of the eyes; sutures of the mesothorax indicated; scutellum with a bidentate projection behind; metathorax with two teeth on each side; abdomen subpetiolate, conical, the first two segments of equal length, much longer than the remainder, short; the abdomen itself smooth and shining, but produced into a rather stout stylus of equal length, and covered with shaggy hair; hind femora with one large tooth and six smaller teeth.

16. PHASGONOPHORA. (Plate III. figs. 31–33.)

Phasgonophora, Westw. Griff. An. Kingd. xv. p. 432 (1832).

Type *P. sulcata*, Westw. *l. c.* pl. lxxvii. fig. 2, from Georgia.

Antennæ 13-jointed, unusually long and slender, and absolutely uniform in thickness throughout, inserted just below the eyes, scape long, second joint short, third and fourth very minute, these joints bare, the remainder pubescent; scutellum unarmed; metathorax with two very short teeth on each side; abdomen as in *Stypiura*, but only with short bristles, and strongly punctured towards the base; hind femora with twelve teeth, the first, fourth, and fifth large and widely separated, second and third minute, fifth to twelfth gradually decreasing in size; wings rather short.

17. TRIGONURA. (Plate IV. figs. 1, 2.)

Trigonura, Sich. Ann. Soc. Ent. Fr. (4) v. p. 376 (1865).

Type *Phasgonophora crassicauda*, Sich. *l. c.* p. 377, pl. x. fig. 1, from Mexico.

Sichel regards this genus as a section of *Phasgonophora*, and distinguishes it as follows:—"Abdomine latiori, ovoideo, minus vel vix compresso; segmento primo solo longissimo, reliquorum brevium simul sumtorum longitudinem æquante; cauda non compressa, ensiformi, sed depressa, latiuscula, subtriangulari."

18. *ASPIRHINA*. (Plate IV. figs. 3-5.)

Type *Halticella dubitator*, Walk. Trans. Ent. Soc. Lond. (3) i. p. 366 (1862), from Santarem.

Antennæ 11-jointed, inserted near the mouth, short, thick, subclavate, and extremely pilose; scape about one third of the total length; scutellum projecting behind in a long straight spine; hind femora unarmed, but fringed with short hairs beneath; abdomen pear-shaped, the first segment occupying about two fifths of its length.

Resembles *Neochalcis* and *Trichoxenia* in the peculiar structure of the scutellum.

19. *PROCTOCERAS*. (Plate IV. figs. 6-8.)

Type *Smicra leucotelus*, Walk. Journ. Ent. i. p. 181 (1861), from Ega.

Antennæ 13-jointed, short, rather stout, of uniform thickness, inserted nearly opposite the lower border of the eyes and clothed with fine bristles, scape and the short second and third joints nearly naked; sutures of the mesothorax obsolete; scutellum unarmed; abdomen subpetiolated, ovoid, and provided with a slender exerted ovipositor slightly longer than the abdomen itself; hind femora moderately swollen, armed below with one large and several small teeth.

I believe that *Chalcis caudatus*, Guér. Icon. R. Anim., Ins. p. 413, pl. lxvii. fig. 6 (1829-1844), from Brazil, is a second species of this genus.

20. *THAUMATELIA*. (Plate IV. figs. 9, 10.)

Type *Chalcis separata*, Walk. Trans. Ent. Soc. Lond. (3) i. p. 353 (1862), from Ega.

Antennæ short, 11-jointed, inserted rather below the eyes, scape of moderate length, bare, the remaining joints pilose, the second shortest, the third longest, the remainder of nearly uniform length and thickness, terminal joint conical; scutellum and metathorax unarmed; hind femora denticulated beneath; abdomen produced into a very long slender stylus, nearly twice as long as the basal part, and fringed on each side with short bristles; first joint of the abdomen nearly equal to half the length of the broad portion.

21. EPITELIA. (Plate IV. figs. 11, 12.)

Type *Chalcis stylata*, Walk. Journ. Ent. i. p. 183 (1861), from Ega.

Antennæ 13-jointed, inserted just below the eyes, much stouter than in *Phasgonophora*, scape at tip and the short second and third joints bare, the rest pubescent, apical joint conical; abdomen sessile, much shorter and stouter than in *Phasgonophora*; stylus about equal in length to the remainder of the abdomen; scutellum very slightly bidentate; metathorax unarmed; hind femora and tibiæ with numerous depressed punctures, the former apparently armed with rather large teeth.

22. MEGALOCOLUS. (Plate IV. figs. 13-15.)

Type *Halticella ducator*, Walk. Trans. Ent. Soc. Lond. (3), i. p. 357 (1862).

Antennæ thick, pubescent, 12-jointed, inserted in the middle of the face, scape long, second joint short cup-shaped, third joint short, appearing like the base of a long fourth joint, the remainder of about equal length, the last conical; end of scape, second, and third joints bare, the rest pubescent; head and thorax coarsely scabrous; sutures of the mesothorax obsolete; scutellum terminating in a raised bidentate plate behind; metathorax very hairy, with two very prominent projections on each side; abdomen subpetiolate, the first segment fully half the length of the remainder; in the female it terminates in a long stylus set with bristles, and about as long again as the abdomen itself; segments of the abdomen fringed behind with short pale hairs, most visible on the sides; hind coxæ with a leaf-like projection on the upper side; hind femora swollen, regularly dentated beneath.

Several species of this very distinct group were described by Walker under *Halticella* in Trans. Ent. Soc. Lond. (3) i. (1862), but stood in the British-Museum collection under *Phasgonophora*. These are:—*H. ducator*, Walk. (Amboina); *ensator*, Walk. (= *tentator*, Walk.), Sarawak and Singapore; *properator*, Walk. (Java); *signator*, Walk. (Java); *notator*, Walk. (*motator*, err. impr.), Sarawak; and *gladiator*, Walk. (Sarawak). Several other species from similar localities described by Walker from the Saundersian collection will probably also fall into this genus.

23. PSEUDOCHALCIS. (Plate IV. fig. 16.)

Type *Halticella declarator*, Walk. Trans. Ent. Soc. Lond. (3) i. p. 360 (1862), from Ega.

Head, thorax, and scutellum covered with very large depressed punctures; antennæ inserted high up in the face, which is channelled to receive the scape; scape rather stout, longer than the third joint, second joint minute, the remainder gradually diminishing in length beyond the third, and rather long and slender (tips broken); scutellum with a short thick smooth projection behind; metathorax with two teeth on each side; femora armed below with several small teeth; "abdomen elliptical, not longer than the thorax" (Walker).

Appears to be related to the Australian genus *Trichoxenia*.

24. TRICHOXENIA. (Plate IV. figs. 17-20.)

Type *Halticella cineraria*, Walk. Notes Chalc. iii. p. 45 (1871); *H. subfasciata*, Walk., described on the same page, appears to be only a smaller variety with paler wings. Both insects are from South Australia.

Antennæ inserted far below the eyes and near the mouth, 12-jointed; face deeply channelled as far back as the ocelli for the insertion of the scape; scape one fourth of the length of the antennæ, dilated at the end; second joint small, third joint short, fourth longer, the remainder gradually diminishing in length, the last very small and conical; thorax scabrous, sutures ill-defined; scutellum armed behind with a short straight spine; metathorax with a short spine on each side; abdomen subsessile, very convex, the first segment covering almost half its length on the back; stylus unusually short and broad, hardly one fourth of the length of the abdomen; hind femora moderately swollen, unarmed, but with a large rounded convexity at the base, beyond which they are slightly grooved for the reception of the tibiæ; wings variegated.

25. STOMATOCERAS. (Plate IV. figs. 21-23.)

Type *Halticella liberator*, Walk. Trans. Ent. Soc. Lond. (3) i. p. 361 (1862), from Natal.

Antennæ 11-jointed, inserted near the mouth; scape very long, almost one third of the length of the antennæ, strongly curved, and expanded at the extremity; second joint very slender at the base, gradually thickened to the extremity, about twice as long as the third joint, which is the shortest, joint 4 as long as joint 2, the rest gradually diminishing in length; terminal joint conical,

about twice as long as the preceding; joints 3-11 of similar structure, not much thickened, and clothed with fine down; front channelled to receive the scape: scutellum armed with two small raised teeth; metathorax unarmed; hind femora hairy beneath; abdomen subpetiolate, first segment nearly twice as long as the others, stylus moderately slender, about half the length of the remainder of the abdomen; wings variegated.

26. ANTROCEPHALUS. (Plate IV. figs. 24-26.)

Types *Halticella fascicornis* and *divisicornis*, Walk. Notes Chalc. iii. pp. 43 & 44 (1871), from Bombay.

Allied to *Stomatoceras*. Antennæ 12-jointed, inserted near the mouth, very long, scape nearly one third of their length, nearly straight, and more slender than the flagellum; head excavated in front as far back as the ocelli; scutellum bidentate; hind femora unarmed; abdomen subpetiolate, the first segment half its length in the male and one third in the female.

27. EUCHALCIS. (Plate IV. figs. 27-29.)

Euchalcis, Duf. Ann. Soc. Ent. Fr. (4) i. p. 7 (1861).

Allocera, Sich. op. cit. (4) v. p. 379 (1865).

Type *E. Miegii*, Duf. l. c. p. 8, pl. i. figs. 4-7 (1861), from Spain.

Antennæ 11-jointed, long and rather slender; scape very long, inserted near the mouth; abdomen and hind femora nearly as in *Neochalcis*.

Dufour has placed several discordant species in his genus *Euchalcis*; and it is to be regretted that his type is identical with that of *Allocera*, Sich.

28. NEOCHALCIS. (Plate IV. figs. 30-32.)

Type *Halticella osmicida*, Saund. Trans. Ent. Soc. 1873, p. 414.

Antennæ 13-jointed, short, pubescent, scape rather short and thick, inserted opposite the lower border of the eyes, second and third joints short, last three very short; sutures of the thorax well marked; abdomen subsessile, oval in the male, conical in the female, the segments gradually diminishing in length, the first not more than half as long again as the second; hind femora with a very strong projection in the middle.

29. *HOCKERIA*. (Plate IV. figs. 33-36.)

Hockeria, Walk. Ent. Mag. ii. p. 34 (1834).

Type *Chalcis bispinosa*, Fabr. Syst. Piez. p. 166 (1804), from Europe.

Antennæ 13-jointed, inserted near the mouth, longer and more slender than in *Halticella*, and with a much longer scape; scutellum strongly bidentate; abdomen sessile, oval, and slightly pointed in the female, first segment very long, covering nearly half the abdomen; hind femora minutely denticulated, and armed with two large obtuse teeth.

30. *HALTICELLA*. (Plate IV. figs. 37-40.)

Halticella (err. impr.), Spin. Ann. Mus. xvii. p. 148 (1811).

Halticella, Walk. Ent. Mag. ii. p. 33 (1834).

Type *Chalcis pusilla*, Fabr. Mant. Ins. i. p. 272, n. 6 (1787), from Europe.

Antennæ 13-jointed, inserted near the mouth, moderately thick, scape shorter than in *Hockeria*, third joint very small; scutellum rounded; abdomen short, sessile, the first segment occupying nearly half the total length above; hind femora armed with twelve rather small teeth.

This genus appears to be intermediate between *Hockeria* and *Chalcis*. Many of the European species usually referred to *Halticella* must be removed to *Hockeria*.

31. *HYBOTHORAX*.

Hybothorax, Ratz. Ichn. Forstins. i. p. 209 (1844).

Type *H. Graffii*, Ratz. l. c. (= *Halticella myrmeleonis*, Fairm. Bull. Soc. Ent. Fr. (5) v. p. cciv), from Europe.

Antennæ 12-jointed, inserted near the mouth; metathorax with a long projection hindwards on each side.

Further observations are much wanted on this curious genus, which is parasitic on *Myrmeleon*. The peculiar form of the metathorax might appear to indicate some affinity to *Dirrhinus*; but it is difficult to form any opinion in the absence of either specimens or a figure.

32. *HIPPOTA*. (Plate IV. figs. 41-44.)

Hippota (Hal. MSS. ?), Walk. Notes Chalc. iii. p. 47 (1871).

Chirocère, Latr. Fam. Nat. p. 447 (1825).

Type *Chalcis pectinicornis*, Latr. Gen. Crust. Ins. iv. p. 26 (1809), from South Europe and Algeria.

Distinguished from all other genera of this family by the long rami of the antennæ of the male, which apparently resemble those of *Cladius* in the Tenthredinidæ. Antennæ 10-jointed; scutellum long, slightly indented at the end; hind femora unarmed; meta-thorax with a strong spine on each side.

33. CHALCIS. (Plate IV. figs. 45, 46.)

Chalcis, Fabr. Mant. Ins. i. p. 272 (1787); Spin. Ann. Mus. xvii. p. 147 (1811); Walk. Ent. Mag. ii. p. 27 (1833).

Brachymeria, Westw. Phil. Mag. (3) i. p. 127 (1832).

Type *Vespa minuta*, Linn. Syst. Nat. i. 2, p. 952, n. 28 (1767), from Europe.

Antennæ 13-jointed, short and stout, pubescent, inserted in the middle of the face, scape moderate, third joint minute; scutellum slightly bidentate; abdomen subpetiolated, pointed in the female but not much produced, first segment about half its entire length; hind femora armed with large teeth.

Synonymic Notes.

LEUCOSPIDINÆ.

LEUCOSPIS, Fabr. L. AFFINIS, Say, Long's 2nd Exped. ii. p. 327 (1824).

Leucospis affinis et var. floridana, Cress. Trans. Amer. Ent. Soc. iv. pp. 32 & 33 (1872).

Leucospis basalis, Westw. Germ. Mag. i. p. 264 (1839).

Leucospis canadensis, Walk. Journ. Ent. i. p. 17 (1860).

Hab. North America.

LEUCOSPIS ANTIQUA, Walk. Journ. Ent. i. p. 19 (1860).

Leucospis Gambeyi, Maindr. Bull. Soc. Ent. Fr. (5) viii. p. clxiv (1878).

Hab. New Caledonia.

CHALCIDINÆ.

SMICRA, Spin. I have discussed the European species in a paper recently contributed to the 'Entomologist,' vol. xv. pp. 241-244 (1882).

SMICRA ABDOMINALIS, Walk. Journ. Ent. i. p. 177 (1861).

Smiera ambigua, Cress. Trans. Amer. Ent. Soc. iv. p. 44 (1872).

Hab. Mexico.

SMICRA FLAMMULA, *Cress. Trans. Amer. Ent. Soc.* iv. p. 48 (1872).

Hab. Mexico.

Judging from the description, this species appears to be allied to *S. erythrina*, Walk. (*Journ. Ent.* i. p. 179, 1861), but to be distinct.

SMICRA PULCHRA, *Cress. Proc. Ent. Soc. Phil.* iv. p. 94 (1865).

Hab. Mexico; Cuba.

This insect is probably identical with *S. transitiva*, Walk. (*Trans. Ent. Soc. Lond.* (3) i. p. 371, 1862), as the colour of the abdomen appears to be the only difference between them.

SMICRA (?) FEMORATA, *Fabr.*

Crabro femoratus, *Fabr. Syst. Ent.* p. 375, n. 10 (1775).

Sphex punctata, *Fabr. Spec. Ins.* i. p. 446 (1781).

? *Chalcis fasciata*, *Oliv. Enc. Méth.* v. p. 439, n. 9 (1790).

Smiera subpunctata, *Walk. Ent. Mag.* ii. p. 25 (1834).

Smiera nigropicta, *Cress. Proc. Ent. Soc. Phil.* iv. p. 95 (1865).

Hab. West Indies; Brazil.

SMICRA CAPTIVA, *Smith, Trans. Ent. Soc.* (3) i. p. 42 (1862).

Smiera adaptata, *Walk. op. cit.* (3) ii. p. 190 (1864).

Hab. Panama; Amazons.

SMICRA DIMIDIATA.

Chalcis dimidiata, *Fabr. Syst. Piez.* p. 160, n. 3 (1804).

Smiera melanoptera, *Walk. Journ. Ent.* i. p. 180 (1861).

Hab. Venezuela.

SMICRA DESCRIPTA *et* EXHAURIENS, *Walk. Trans. Ent. Soc.* (3) ii. pp. 197 & 198 (1864).

Hab. Amazons.

S. exauriens only differs from the type in having the hind tibiæ tipped with black.

STYPIURA, *Kirb. (anteà, p. 59).* S. CONIGASTRA.

Chalcis conigastrea, *Perty, Del. Anim. Art.* p. 134, pl. xxvi. fig. 16 (1834?).

Haltichella erythrotelus, *Walk. Journ. Ent.* i. p. 184 (1861).

Hab. Ega.

MEGALOCOLUS, *Kirb. (anteà, p. 61).* M. ENSATOR.

Halticella ensator et tentator, *Walk. Trans. Ent. Soc.* (3) i. pp. 357 & 358 (1862).

Hab. Borneo; Singapore.

NEOCHALCIS, *Kirb.* (*antèd.*, p. 63). N. OSMICIDA, *Saund.*

Haltichella osmicida, *Saund. Trans. Ent. Soc.* 1873, p. 414; 1882, pp. 291-295; *Waterh. Aid.*, i. pl. xl. (1881).

Halticella venusta et vetusta, *André (nec Duf.)*, *Ann. Soc. Ent. Fr.* (6) i. p. 340, pl. ix. fig. 2 (1881).

Hab. South Europe.

Euchalcis hematomera, *Duf.* *Ann. Soc. Ent. Fr.* (4) i. p. 9, pl. i. figs. 8-10 (1861), from Spain, is closely allied to this species, and certainly congeneric.

HOCKERIA, *Walk.* H. (?) DARGELASII.

Chalcis dargelasii, *Latr. Hist. Nat. Crust. et Ins.* xiii. p. 221 (1805).

Hockeria nigra, *Walk. Ent. Mag.* ii. p. 36 (1834).

Hab. Europe.

HOCKERIA RUFIPES.

Chalcis rufipes, *Oliv. Enc. Méth.* v. p. 440 (1790).

Cynips armata, *Panz. Faun. Germ.* Heft 74, pl. ex. (1801).

Chalcis bispinosa, *Fonsc. (nec Fabr.) Ann. Sci. Nat.* xxvi. p. 279 (1832).

Hab. Europe.

HOCKERIA (?) WALKERI.

Halticella tarsalis, *Walk. (nec Motsch.) Notes Chalc.* iii. p. 44 (1871).

Hab. Bombay.

This species is probably congeneric with *Brachymeria tarsalis*, *Motsch. Bull. Mosc.* xxxvi. (2) p. 38 (1863), from Ceylon; and I consequently take the present opportunity of renaming it.

HOCKERIA (?) FIGURATOR.

Halticella figurator, *Walk. Trans. Ent. Soc. Lond.* (3) i. p. 367 (1862).

Halticella nigricola, *Walk. Notes Chalc.* iii. p. 43 (1871).

Hob. Gambia.

The two descriptions appear to apply not only to the same species, but to the same specimen.

HOCKERIA (?) NYSSA, *Walk. Ent. Mag.* v. p. 474 (1837).

Hockeria proxenus, *Walk. Mon. Chalc.* ii. p. 8 (1839).

Hab. Sydney; Tasmania.

Walker has placed the types of his *H. nyssa* and *proxenus* together as sexes, which appears likely to be correct, although they are from slightly different localities.

CHALCIS, *Fabr.* C. EUPLŒÆ.

Chalcis (Brachymeria) Euplœæ, *Hope, Proc. Ent. Soc. Lond.* ii. p. vi, pl. ii. figs. 9 & 10 (1836).

Chalcis Lasus, *Walk. Ent.* i. p. 219 (1841).

Chalcis inclinator, *Walk. Trans. Ent. Soc. Lond.* (3) i. p. 355 (1862).

Chalcis obscurata, *Walk. Trans. Ent. Soc. Lond.* 1874, p. 399.

Hab. India; Ceylon; China; Japan; Java; Aru.

CHALCIS FINATOR.

Halticella finator, *Walk. Trans. Ent. Soc. Lond.* (3) i. p. 368 (1862).

Chalcis mansueta, *Walk. Notes Chalc.* iii. p. 41 (1871).

Hab. Hong Kong.

The two descriptions appear to have been made from the same specimen.

CHALCIS AMENOCLES, *Walk. List Chalc.* i. p. 84 (1846).

Chalcis polyctor, *Walk. Trans. Ent. Soc. Lond.* (3) i. p. 354 (1862).

Chalcis varipes, *Walk. Notes Chalc.* iii. p. 48 (1871).

Hab. West and South Africa. (Type from Sierra Leone.)

Chalcis polyctor, *Walk. Ent.* i. p. 218 (1841), which also occurs at Sierra Leone, proves to be a totally different species.

CHALCIS FLAVIPES, *Fabr. (nec Panz.) Ent. Syst.* ii. p. 197, n. 10 (1793).

Chalcis ovata, *Say, Long's 2nd Exped.* ii. p. 326 (1824).

Chalcis annulipes, *Walk. Ent. Mag.* ii. p. 29 (1834).

? *Leucospis integra*, *Hald. P. Acad. Phil.* ii. p. 53 (1844).

Chalcis incerta, *Cress. Proc. Ent. Soc. Phil.* iv. p. 101 (1865).

Brachymeria panamensis, *Holmgr. Eugenes Resa, Ins.* p. 437 (1858).

Hab. North and Central America; West Indies.

CHALCIS (?) VICARIA, *Walk. Journ. Ent.* i. p. 183 (1861).

♀. *Chalcis eurytomoides*, *Walk. Trans. Ent. Soc. Lond.* (3) ii. p. 247 (1864).

Hab. Amazons.

CHALCIS DECRETA *et* CONCITATA, *Walk. Trans. Ent. Soc.* (3) i. pp. 352 & 353 (1862).

Hab. Santarem.

The specimens described under these names appear to be sexes; but the description of *C. concitata* is very imperfect.

Descriptions of New Species.

I have not a large number of new species to describe, as comparatively few additions have been made to the British-Museum collection of Chalcididæ since Walker's publications on the family.

LEUCOSPIDINÆ.

LEUCOSPIS, *Fabr.*

LEUCOSPIS TRICOLOR, n. sp.

Exp. al. 8 lin. ; long. corp. 4 lin.

Black, very closely punctured, and with very fine grey pubescence. Antennæ red, first two joints blackish. Prothorax red, with a black band in the middle, sides of meso- and metathorax bordered above with red, mesothorax with a transverse red spot on the back, a large red spot just below the fore wings, and metapleura entirely red. Abdomen black, first segment not much narrower than the second, with some indistinct red markings above, and with the sides red; near the front of the second segment is a yellow belt; and towards the tip of the abdomen are two yellow spots on each side, bordered below with red ones. Legs red; coxæ black; hind coxæ red at the tips, hind femora with a large black spot on the inside, yellow above and at the base on the outside, with an irregular black mark below the yellow upper border, and armed with six very large teeth, the last obtuse. *Hab.* South Africa.

Described from one male specimen. Parasitic on *Anthidium cordatum*, Smith, according to P. Mansel Weale.

LEUCOSPIS MYSOLICA, n. sp.

Exp. al. 9 lin. ; long. corp. 4 lin.

Black, very finely punctuated, and with fine pubescence. Head and thorax with green reflections, face clothed with golden tomentum; antennæ ferruginous, scape beneath yellow. Prothorax with a broad yellow band, dilated at the sides, and partly bordered with red; mesothorax bordered with a yellow stripe on each side, and with a transverse one in the middle; scutellum with a very broad yellow band behind; beneath the fore wings is a large yellow spot; and the metapleura are almost entirely yellow. First segment of the abdomen more than half the width of the remainder, with a very broad yellow band, slightly edged with reddish in front, and partly divided by a black line in the middle above; the rest of the abdomen with a yellow band

in the middle, and with a yellow streak on each side of the ovipositor at the extremity; the ovipositor is ferruginous, shading into blackish at the extremity, and recurved to much less than half the length of the abdomen. Legs yellow, shading into ferruginous; four front coxæ and femora mostly blackish; hind legs ferruginous above and within, and mostly yellow on the outside; hind femora with a comparatively small black band on the outside, and with one large and about seven small teeth. Wings smoky hyaline, very iridescent. *Hab.* Mysol.

Described from one female example, collected by A. R. Wallace.

LEUCOSPIS TOMENTOSA, n. sp.

Exp. al. $9\frac{1}{2}$ lin.; long. corp. $4\frac{1}{2}$ lin.

Black, closely punctured, with short greyish pubescence. Vertex and thorax tinged with metallic green; face reddish, covered with silvery tomentum. Antennæ dark brown above, reddish below, the scape inclining to yellow. Metathorax edged behind with a conspicuous yellowish-white tuft of hair on each side. Abdomen not petiolated, of equal breadth throughout. Under surface of the body mahogany-brown. Hind femora narrowly bordered with yellow above and below, with one large and about nine small teeth; hind coxæ bordered with metallic green above and below; tip of front femora in one specimen with a short yellow line beneath. Ovipositor reddish, recurved to the base of the scutellum. Wings hyaline, clouded along the costa and at the tips. *Hab.* St. Thomas; Tapajos, Amazons.

Described from three female specimens, which stood in the British-Museum collection as *Metallopsis cayennensis*, but are apparently quite distinct from that species.

CHALCIDINÆ.

SMICRA, *Fabr.*

SMICRA RUFIPES, n. sp.

Exp. al. $4\frac{1}{2}$ lin.; long. corp. 3 lin.

Head and body entirely black, except a small spot beneath each antenna and the tips of the mandibles, which are reddish. Antennæ long, subclavate, apparently 12-jointed, the fourth joint longest; thorax very coarsely but evenly punctured; tegulæ reddish; petiole stout, reddish at the extremity, nearly as long as the rest of the abdomen, which is smooth and shining; legs

red, hind coxæ black, hind femora with numerous small blackish teeth; tibiæ rather darker than the femora. Wings iridescent hyaline, with piceous costal nervure. *Hab.* Georgia.

This species was mixed with *S. sispes* in the British-Museum collection; but its smaller size and unicolorous femora will separate it at once.

SMICRA IGNEOIDES, n. sp.

Exp. al. 5 lin.; long. corp. $3\frac{1}{2}$ lin.

Warm yellowish ferruginous, finely punctured. Antennæ 13-jointed(?), black except the scape beneath, scape very long; sutures of the thorax, a longitudinal stripe on the mesothorax and scutellum, two oblique stripes on the sutures of the pleuræ, the hindermost most distinct, a longitudinal dash on the outside of the hind coxæ, and the extreme tip of the abdomen black; petiole short, not one fourth of the length of the abdomen, which is smooth and shining, and has a rather indistinct yellow stripe towards the base; teeth of the hind femora exceedingly minute. Wings hyaline, clouded towards the base. *Hab.* United States.

Close to *S. ignea*, Cress. Proc. Ent. Soc. Phil. iv. p. 92 (1865), but may be distinguished at once by the unicolorous metathorax. This species was confounded with *S. fulvescens*, Walk. Ent. Mag. ii. p. 25 (1834), in the British-Museum collection.

SMICRA FOVEATA, n. sp.

?? *Smicra contacta*, Walk. Trans. Ent. Soc. Lond. (3) ii. p. 184 (1864).

Exp. al. 5 lin.; long. corp. 2 lin.

Deep orange, including the face and under surface of the scape of the antennæ; antennæ otherwise brown above, reddish beneath; antennal grooves edged with black; ocelli black; occiput black; prothorax with a black spot in the middle in front; mesothorax edged before and behind with black (the front stripe dentated behind), and with three longitudinal stripes, those on the side lobes incomplete behind; scutellum wider than broad, marked with a black isosceles triangle, and with two widely separated teeth behind; petiole moderately stout, about half the length of the abdomen, which is marked with transverse reddish stripes, shading into blackish on the back. Hind legs, tips of coxæ and trochanters black; femora with a large black spot below, near the base, visible on both sides, a spot on each side above, near the middle, that on the outside narrower than that on the inside;

the tip and the base of the tibiæ are also black, armed below with four large black teeth, the first at the base, and the last two close together. Wings clear hyaline, with brown costal nervure. *Hab.* Amazons.

This species stood in the British-Museum collection as *S. contracta*, Walk.; but it differs too much from his description to allow of his name being retained. He describes the abdomen as "mostly black," and the pectus with a black line on each side.

SMICRA PERA, n. sp.

Exp. al. 4 lin.; long. corp. 2 lin.

Yellow; antennæ black, with the scape beneath and the extreme tip reddish; prothorax with an oval spot on each of the side lobes, and bordered behind with black (central markings, if any, obliterated by the pin); pectus with a black spot on each side; scutellum with a bowl-shaped spot near the extremity, which projects a triangle forwards; petiole short; abdomen with five transverse reddish stripes; tips of hind coxæ, trochanters, and base and tips of tibiæ black; femora with a reddish-brown spot on the outside, and armed below with numerous minute teeth. Wings hyaline. *Hab.* Brazil.

SMICRA INCERTA, n. sp.

Smiera certa ♀?, *Walk. Trans. Ent. Soc. Lond.* (3) ii. p. 183 (1864).

Exp. al. 8 lin.; long. corp. 3 lin.

Black. Antennæ reddish beneath; scape long, yellowish beneath; a large pale spot on each side of the face just below the antennæ. Prothorax edged behind with yellowish on each side, interrupted on each side of a spot in the middle of the hind border; mesothorax granulated; tegulæ, sides of hind border of mesothorax, a spot on the mesopleura, and hind border of scutellum (which is bidentate) yellowish. Petiole short, black. Abdomen with strong ferruginous reflections; but its basal third, which is bounded behind by a yellowish stripe, is lighter than the remainder; near the tip is another yellowish stripe. Four front legs black; tarsi, a line on the outside of the front tibiæ, and at the base of the middle tibiæ pale yellow, or whitish; hind coxæ with a yellowish stripe beneath on the basal half; femora with a yellow stripe on each side, broadest on the inside, and armed below with six teeth, the second small; tips of femora on the inside and base of tarsi ferruginous. Wings yellowish hyaline. *Hab.* Amazons.

Walker regarded this insect as probably the female of his *S. certa*; but it differs considerably from his type, which appears to be likewise a female.

SMICRA DECIPIENS, n. sp.

Exp. al. 6 lin.; long. corp. $3\frac{1}{2}$ lin.

Black; scape beneath and inner orbits broadly yellow; prothorax edged behind with yellow, the stripe emitting a slender branch obliquely forward on each side; mesothorax somewhat more coarsely punctured than in *S. discolor*, the upper part of the middle and side lobes edged with yellow; scutellum with a yellow band in front; and there is a yellow spot on the metathorax on each side of this; the scutellum is bidentate, and bordered with yellow behind and at the sides more narrowly than in *discolor*, but continuously; petiole very short and stout, yellow; abdomen yellow, banded with black in the middle, the black portion enclosing a yellow line on each side near the extremity. Four front legs yellowish, femora black nearly to the extremity, and tibiæ with a black line on the outer side. Hind coxæ yellow with a black triangular spot at the base beneath, trochanters black, femora black with a yellowish tawny mark at the base beneath, and a stripe of the same colour near the tip extending almost all round, armed below with two small and five very large teeth; tibiæ black, with a yellow band near the middle; tarsi yellow, the last joint black. Wings brownish hyaline, with blackish nervures. *Hab.* Villâ Nova, Amazons.

Closely resembles *S. discolor*, Walk. Journ. Ent. i. p. 180 (1861).

SMICRA BURMEISTERI, n. sp.

Exp. al. 5 lin.; long. corp. 3 lin.

Dull yellow; antennæ brown, clothed with dense greyish pile, scape yellow beneath, antennal fossa black; mandibles tipped with black; occiput and adjacent portion of prothorax black; central lobe of mesothorax either wholly black or broadly bordered with black before and behind and with a central black line, lateral lobes with a thick black stripe; hinder and lateral sutures of the mesothorax and a band behind and below the scutellum black; petiole reddish above and black on the sides, rather more than half the length of the remainder of the abdomen, which is oval, yellow at the base, and black (banded with yellow on the upper side) beyond; legs yellow, hind legs:—

coxæ rather longer than the petiole, black beneath, and with a reddish line on the outside; trochanters black; femora with a black spot at the tip, hairy and probably serrated beneath; tibiæ black, with a yellow stripe on the inside; tarsi yellow. Wings hyaline. *Hab.* Argentine Republic. Presented by Dr. Burmeister.

PHASGONOPHORA, *Westw.*

PHASGONOPHORA? BATESII, n. sp.

Exp. al. $4\frac{1}{2}$ lin.; long. corp. 3 lin.

Head, pectus, and apical third of the abdomen black; thorax red, very coarsely punctured; scutellum slightly pointed behind; base of abdomen dark red; front knees, tibiæ, and tarsi, middle knees and tarsi, and the tips of the hind femora and tibiæ whitish; hind tarsi inclining to yellowish; hind femora black outside and reddish inside, armed below with about six teeth. Wings hyaline, with brown costal nervure. *Hab.* Santarem.

THAUMAPUS, *Kirb.* (anteà, p. 56.)

THAUMAPUS WALKERI, n. sp.

Smicra luteipennis (♂)? *Walk. Journ. Ent.* i. p. 173 (1861).

Exp. al. 11 lin.; long. corp. 4 lin.

Tawny, pale greyish yellow beneath, occiput and vertex entirely black as far as the antennæ, which are also black, except the scape beneath, which is rather short; mesothorax with a square spot at the extremity, from which runs a black line on the front half of the scutellum; scutellum armed behind with two short sharp teeth projecting upwards; back of mesothorax with a conspicuous rectangular prominence on each side; metathorax with a spine on each side of the petiole, which is as long as the abdomen, and marked with a black line above; abdomen short and stout, tip black; base of ovipositor black, and a broad black band above, not extending to the base; hind coxæ with a black line on the outside; femora armed below with numerous minute black teeth; apical half of hind femora black on the inside. Wings yellowish, tips clouded. *Hab.* St. Paulo, Upper Amazons.

HOCKERIA, *Walk.*

HOCKERIA (?) CANARIENSIS, n. sp.

Exp. al. $2\frac{1}{2}$ lin.; long. corp. 2 lin.

Black ; fore part of the body coarsely, and abdomen finely punctured. Antennæ 11-jointed, inserted near the mouth, very long and slender ; scape nearly one third of total length, attenuated beyond the middle and thickened towards the base and also immediately at the tip ; second joint also thickened at the tip ; scape and second joint reddish at the tips, otherwise black ; the remaining joints black, and of equal width, the divisions very indistinct. Legs reddish yellow ; femora black, except at the tip ; middle tibiæ blackish between one fourth of the distance from the base and the middle, and hind tibiæ blackish at the base and beneath. Wings strongly smoky in the middle ; the costal nervure about half the length of the wing, brown, darkening at the extremity, where it terminates in a thick oval club ; scutellum unarmed. Abdomen sparingly clothed with white hairs beneath ; hind femora apparently unarmed and carinated beneath. *Hab.* Canary Islands. Collected by the late T. V. Wollaston.

CHALCIS, *Fabr.*

CHALCIS CALLIPUS, n. sp.

Exp. al. $4\frac{1}{2}$ lin. ; long. corp. $2\frac{3}{4}$ lin.

Black, clothed with a short grey pubescence, antennal grooves reddish on the inside ; thorax and scutellum coarsely punctured, the sutures well defined ; prothorax about twice as broad as long ; scutellum bituberculate ; metathorax rugose, armed with two short spines on each side ; tegulæ and the space immediately at the insertion of each wing ivory-white ; abdomen with the first two segments smooth and shining above, the second and following with greyish down on the sides ; under surface of abdomen reddish ; four front femora black, broadly white at the tips, tibiæ white, more or less black in the middle, and all the tarsi whitish shading into fawn-colour ; hind coxæ, trochanters, and femora entirely red, except a white spot at the extremity of the latter on the outside ; hind femora armed below with a series of small teeth ; hind tibiæ black, with the tip white, and an oblong white spot near the base. Wings hyaline, with yellowish costal nervure and blackish stigma. *Hab.* Japan.

Closely allied to the European *C. Fonscolombeï*, Duf. (*podogrica*, Rossi, nec Fabr.) ; but in that species the hind coxæ are black at the base.

CHALCIS HEARSEYI, n. sp.

Exp. al. 5 lin. ; long. corp. 2 lin.

Black, finely and closely punctured; face &c. clothed with silvery pubescence; scutellum unarmed; legs lemon-yellow, four front femora black nearly to the tip; hind coxæ and femora black, the latter yellow on both sides at the extreme tip and finely denticulated beneath; hind tibiæ black for at least two thirds of their length; claws black. Wings clear hyaline, with brown costal nervure. *Hab.* Barrackpore, India (collected by Sir J. Hearsey).

Closely allied to the widely ranging *C. Euplææ*, Hope; but in that species the hind tibiæ are black at the base only.

CHALCIS ATRATA, n. sp.

Exp. al. 5 lin. ; long. corp. 3 lin.

Black, covered with a hoary pile, which is much more conspicuous than usual except on the first segment of the abdomen, even covering the hind femora; a reddish dot below the scape of each antenna; legs black; knees, tips of tibiæ, and tarsi testaceous; hind femora armed with about eight minute teeth. Wings hyaline, with brown costal nervure. *Hab.* Queensland.

CHALCIS COWANI, n. sp.

Exp. al. $4\frac{1}{2}$ lin. ; long. corp. 2 lin.

Black, head and thorax very strongly rugose-punctate; abdomen smooth and shining; tegulæ, knees, tibiæ and tarsi all pale whitish yellow; hind femora armed with about seven large obtuse teeth, set widely apart; inside of hind tibiæ black. Wings hyaline, with brown nervures; costal nervure much thickened at the junction of the subcostal; stigma boot-shaped. *Hab.* Madagascar (Antananarivo).

Reared from pupæ of *Papilio Demoleus* and of a species of *Nephele* (Rev. W. Deans Cowan).

CHALCIS WOLLASTONI, n. sp.

Exp. al. 4 lin. ; long. corp. $1\frac{1}{2}$ lin.

Black; head, thorax, and scutellum covered with large punctures; scutellum slightly bidentate; front legs mostly yellow, four front femora black at the base, front tibiæ with a long black spot on the outside, and middle and hind tibiæ black except at base and tip; hind femora black, except at the tip, and armed below with a series of strong but rather short teeth; wings subhyaline, with brownish yellow nervures. *Hab.* Canary Islands. Collected by the late Mr. T. V. Wollaston.

DESCRIPTION OF THE PLATES.

The series of figures exhibit structural details of genera of Chalcidinae.

PLATE III.

- Figs. 1-3. *Smicra sispes*, Linn. 1, antenna; 2, hind leg; 3, middle leg.
 4, 5. *Spilochalcis xanthostigma*, Dalm. 4, middle leg; 5, hind leg.
 6, 7. *Epitransus fulvescens*, Walk. 6, antenna; 7, hind leg.
 8, 9. *Anacryptus impulsator*, Walk. 8, antenna; 9, hind leg.
 10, 11. *Arretocera albipennis*, Walk. 10, antenna; 11, hind leg.
 12-14. *Thaumapus decora*, Walk. 12, antenna; 13, hind leg; 14, wing.
 15-17. *Dirrhinus excavatus*, Klug (Dalman?). 15, antenna; 16, hind leg; 17, outline of body.
 18. *Eniaca hesperidum*, Rossi. 18, antenna.
 19. *Axima spinifrons*, Walk. 19, outline of body.
 20, 21. *Agamerion gelo*, Walk. 20, antenna; 21, hind leg.
 22, 23. *Notaspis formiciformis*, Walk. 22, antenna; 23, hind leg.
 24, 25. *Epineus dux*, Walk. 24, antenna; 25, outline of winged insect.
 26, 27. *Conura flavicans*, Spin. 26, abdomen; 27, hind leg.
 28-30. *Stypiura conigastrea*, Perty. 28, outline of body; 29, hind leg; 30, scutellum.
 31-33. *Phasgonophora sulcata*, Westw. 31, antenna; 32, hind leg; 33, abdomen.

PLATE IV.

- Figs. 1, 2. *Trigonura crassicauda*, Spin. 1, abdomen; 2, apex of abdomen enlarged (after Spinola).
 3-5. *Aspirhina dubitator*, Walk. 3, antenna; 4, hind leg; 5, scutellum and abdomen.
 6-8. *Proctoceras leucotelus*, Walk. 6, antenna; 7, hind leg; 8, abdomen.
 9, 10. *Thaumtelia separata*, Walk. 9, antenna; 10, abdomen.
 11, 12. *Epitelia stylata*, Walk. 11, antenna; 12, abdomen.
 13-15. *Megalocolus ducator*, Walk. 13, antenna; 14, hind leg; 15, outline of body.
 16. *Pseudochalcis declarator*, Walk. 16, scutellum.
 17-20. *Trichoxenia cineraria*, Walk. 17, antenna; 18, abdomen; 19, 20, scutellum.
 21-23. *Stomatoceras liberator*, Walk. 21, antenna; 22, hind leg; 23, abdomen.
 24-26. *Antrocephalus fascicornis*, Walk. 24, antenna; 25, hind leg; 26, abdomen.
 27-29. *Euchalcis Mieggii*, Duf. 27, antenna; 28, hind leg; 29, abdomen (after Dufour).
 30-32. *Neochalcis osmicida*, Saund. 30, antenna; 31, hind leg; 32, abdomen.
 33-36. *Hockeria bispinosa*, Fabr. 33, antenna; 34, hind leg; 35, abdomen; 36, scutellum.

Figs. 37-40. *Halticella pusilla*, Fabr. 37, antenna; 38, hind leg; 39, abdomen; 40, scutellum.

41-44. *Hippota pectinicornis*, Latr. 41, antenna (♂); 42, antenna (♀) (after Lucas); 43, hind leg; 44, scutellum (from the type of *Chalcis alexion*, Walk., = *H. pectinicornis* ♀).

45, 46. *Chalcis minuta*, Linn. 45, antenna; 46, hind leg.

No details are figured of the genera *Chalcitella*, Westw., and *Hybothorax*, Ratz.

Description of *Ligula Mansoni*, a new Human Cestode. By
Prof. T. SPENCER COBBOLD, M.D., F.R.S., F.L.S.

[Read December 21, 1882.]

ON the 29th of June, 1882, I received from Dr. Patrick Manson, of Amoy, a small bottle containing numerous flattened shreds bearing but slight resemblance to ordinary tapeworms. They were preserved in spirit. The donor, who had the advantage of seeing them in the fresh state, recognized their parasitic character, but entertained a doubt as to their cestode nature. I have often received flattened fibrinous clots resembling parasites; but from the first I conjectured that we had here to deal with immature Ligules. The bottle bore a label with a brief notice to the following effect:—"Tape-like parasites from subperitoneal fascia of Tchai, [who] died, after operation for lympho-elephantoid scrotum, of dysentery, and ulcerated stricture of the œsophagus." The date of this "find" was Sept. 21, 1881; but it was not until the 26th of September of the current year that I found leisure to renew my examination of the specimens. In the interval Dr. Manson furnished me with full particulars of the patient. The MS. was forwarded to the Editor of the 'Lancet,' and the case was published on the 14th of October last. In the account of the *post mortem* there given, Dr. Manson more explicitly states that "a number of parasites, twelve in all, were found lying in the subperitoneal fascia, about the iliac fossæ and behind the kidneys. A single parasite was found lying free in the right pleural cavity. Some of these parasites were coiled up in knots, and others lay extended. On being drawn from under the peritoneum, they exhibited languid movements like those of tapeworm." Further on he states that the worms had a "dead white" appearance and "moved distinctly when taken out of the body."

When I removed the parasites from the bottle, they came



